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ORIGINAL AND SELECTED ARTICLES.

NOTES OF PROFESSOR GASTON'S LECTURE ON MALIGNANT TUMORS.

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[Concluded from our last number.]

EPITHELIOMA.

This class of affections was formerly known under the name of scirrhus, from the supposed identity with that disease. They comprise the various forms of malignant disease of the cutaneous and mucous tissues, particularly carcimona of the lip, gums, tongue, face, anus, and penis. They are not, however, limited to these parts, but sometimes invade deeper structures, as bones, muscles, lymphatic ganglions, liver, and lungs. The names by which these formations are generally known are Epithelioma cancroid and Epithelial cancer. Epithelioma is more common in men than in women, the latter being more liable to scirrhus. In the male, the lip and penis are most frequently attacked. What is called Chimney-sweep's cancer is a form of epithelioma of the scrotum. In whatever form it may show itself it does not often make its appearance before the age of thirty-five or forty. It usually occurs in one part of the body, only its origin being much less connected with the constitution than the other varieties of carcinoma. The causes of this disease are not very well understood. It is sometimes directly traceable to an external injury, as long-continued

pressure. Epithelioma of the lip is often charged to smoking. The disease sometimes manifests a hereditary tendency. Cancroid generally begins in the form of a tubercle, crack or wart-like excrescence, hard to the touch, movable, and somewhat tender on pressure. When ulceration sets in the exposed surface has a foul, unhealthy, fungated appearance, with irregular granulated edges and a hard, rough base. The discharge is generally abundant and of a thin, sanious, acrid description, often eroding the skin in the neighborhood of the part affected. The pain in this disease is of a sharp, darting or pricking nature, often extending to the surrounding parts. During the progress of the disease lymphatic involvement occurs, sometimes early, but generally not until rather late in the disease.

In making section of epithelioma it is found to grate under the knife. Minutely examined, it is found to consist of cells not unlike pavement epithelium, only they are larger. The cells vary considerably in shape; they usually have one or two small nuclei. Mixed up with the cells of epithelioma are great numbers of free nuclei and granules, and sometimes crystals of cholesterine pigment cells, and blood corpuscles. It seems that this disease is deficient in some of the elements of ordinary cancer. Epithelial cancer is generally tardy in its growth, cancer of the lip often lasting a number of years before it terminates fatally.

COLLOID.

The name of this class of morbid growth has reference to the jelly-like appearance of one of its principal constituents. It has sometimes been described as gelatiniform, alveolar, and gum cancer. The favorite seat of this morbid growth are the omentum, stomach, rectum, ovary, and lower jaw, subcutaneous cellular tissue, and the bones of the extremities. The testicle, mamma, uterus and lymphatic ganglions are sometimes attacked. It is never found in the eye and its appendages. It takes place in both sexes and at all periods of life, after puberty, but is most common between the ages of thirty-five and fifty. Colloid usually occurs under two forms, as tumor and as an infiltration, the latter most common in the alimentary canal, particularly the stomach and rectum; the former in glandular organs, peritoneum and omentum, ovary cellular tissues and bones.

When colloid occurs as a distinct tumor it is of a globular, rounded or irregular shape, and of firm consistence. It varies in size from that of a marble to that of an adult head. The knife, in passing through it, makes a creaking sound. Colloid consists of two ele-

ments—a stroma and a peculiar jelly-like matter, from which it takes its name; the stroma consists of fibres, and are arranged in such a manner as to form cells or cavities from the size of a pin-head to that of a small marble. The stroma seems to be a new formation, and possesses great firmness and density; it is of a whitish, grayish or pale yellowish color. The fibrous matter of colloid is almost destitute of free cellular substance; it receives an abundant supply of vessels. The manner in which the vascular system is arranged is not well determined. The other element is an unorganized product of a whitish, greenish, or yellowish color and of the consistance of ordinary jelly; sometimes it is as firm as moist cheese or the white of hard-boiled eggs; then, again, it sometimes resembles currant jelly or a solution of gum shellac. Cancer cells, such as are found in scirrhus and encephaloid, are occasionally found in colloid, but not as a necessary constituent. Colloid seems to have less disposition to ulcerate, and contaminate the surrounding lymphatic ganglions than the other heterologous formations.

MELANOSIS.

Melanosis, sometimes called Black Cancer, occurs most commonly in the cellulo-adipose tissue beneath the skin, in the folds of the mesentery and omentum, in the mediastinal cavities, the lymphatic ganglions, the eye, liver, lungs, and parotid glands; it is also met with, sometimes, in the serous and fibrous membrane, bones, ovaries, heart, pancreas, and spleen. It sometimes co-exists with some of the other heterologous deposits. It takes place in both sexes and at all periods of life, but is most frequent in adult and middle-aged subjects. Melanotic matter is deposited in several varieties of form, the tuberoid being the most common. It occurs in small masses of a rounded, ovoidal or irregular shape, with or without a cyst, from the size of a pin-head to that of a walnut. By the union of these small masses large tumors are sometimes found, reaching the size of a fist or even a fœtal head. Melanotic matter in a pure state is of a sooty-black or dark-brown color; in consistence it varies from that of ink to that of fibro-cartilage. Its chemical constituents are albumen-fibrin and a dark substance not unlike the coagula of blood, with a small quantity of iron, soda, magnesia, lime, and potash; it imparts a characteristic stain to linen, and resists decomposition. When examined microscopically, melanotic matter is found to consist of a fibrous net-work inclosing numerous meshes filled with free pigment cells of a pale-yellowish, dark or dark-brown color, and of a rounded, oval or irregular shape. The nature and cause of this disease is not well

understood. When disintegration takes place there is found a foul, non-granulating, unhealthy ulcer; the discharge is of a sanious character, mixed with heteroclite secretions. It is generally of slower growth than that of scirrhus or encephaloid ulcers, when it is found in a number of organs at the same time. The general health often becomes impaired before ulceration takes place, the patient assuming a sallow, haggard look.

DIAGNOSIS.

Epithelial cancer, usually, is not difficult to diagnose. Its situation at the junction of the skin and mucous membrane, or upon either of these structures, its origin in a crack or fissure, or wart-like excressence; its great firmness, its slow growth, and small size, and the absence for a long time of pain or any constitutional taint. The principal sign by which we may know melanosis is the peculiarity of its color. Colloid tumors may be confounded with fibrous and enchondromatous formations.

A careful examination of the morbid mass will be likely to assist a correct diagnosis.

About the only disease with which encephaloid could be confounded is scirrhus, but there are several points of difference which, when considered, will greatly aid the diagnosis:

1st. Encephaloid is soft and elastic to the touch, not uniformly but more so at some points than at others. Scirrhus is uniformly hard and inelastic.

2d. Encephaloid grows rapidly and soon acquires a large bulk; scirrhus grows more slowly, and the bulk is comparatively small.

3d. In encephaloid the pain is slight till ulceration begins; in scirrhus the pain begins early, and is distinctly localized, and is of a sharp, darting character.

4th. In encephaloid there is always marked enlargement of the veins; in scirrhus the vessels retain their natural size, usually.

5th. In encephaloid the ulcer is foul and fungous, with thin, undermined and livid edges, and it is subject to frequent hemorrhages; in scirrhus the ulcer is incrusted with spoiled lymph, has steep, abrupt edges, bleeding very little and not often.

6th. In encephaloid there is generally early involvement of lymphatics; in scirrhus, generally not until late.

7th. Encephaloid occurs at all periods of life; scirrhus seldom before the age of forty or forty-five.

8th. Encephaloid is most frequent in the eye, testicle, mamma, lymphatic ganglion, bones and cellular tissue; scirrhus is never found in the eye and testicle, and seldom in lymphatics and bone.

9th. Encephaloid usually terminates fatally in from nine to twelve months; scirrhus seldom sooner than eighteen months or two years.

The microscope is a great aid in forming a diagnosis of malignant tumors, but it is not always an infallible one.

TREATMENT.

The surgeon should direct his attention to the patient's diet, bowels, and secretions, and to the avoidance of all sources of local irritation. The diet should be of a bland, unirritating character, but sufficiently nutritious to preserve a sound condition of the blood and to maintain the tone of the muscular system. A milk diet seems to answer better than any other. Bowels should be kept in a soluble condition, but all active purgation should be avoided. Sleep should be procured, and pain allayed, by anodynes. If debility exist, tonics are to be used, such as iron, quinine, etc. Night sweats may be controlled by aromatic sulphuric acid. Care should be taken to keep the affected part at rest, and free from pressure and excitement. When the part takes on an ulcerative action the resulting one should be kept clean by frequent ablutions.

The treatment of cancerous disease by compression was for a long time considered beneficial, but of late years it has fallen into disuse. The great indication is for excision when a growth is suspected to be malignant, not that we may expect a permanent cure but it often gives a temporary relief for a number of months or even years. There are cases on record in which the removal of epithelioma has seemed to result in a cure.

There are some general rules for the excision of malignant growths that it may be well to observe:

1. It is necessary that the incisions should be carried through the healthy tissues at some distance from the morbid deposit, and care taken that every part of the diseased structure be removed.

2. The surgeon should endeavor to preserve as much as possible of the common integument, in order to afford a complete covering to the surface of the wound.

3. When only a portion of an organ is involved by the heteromorphous matter the rule is to remove, not a part but the whole of it.

4. In removing malignant tumors the surgeon should alwsys endeavor to avoid the loss of blood.

5. The whole of the wound left by the operation should be healed by first intention, and dressing should be to that end.

6. When the integument is deficient it is practicable sometimes to know the requisite amount from the surrounding parts.

7. When a sufficiency of integument cannot be obtained it is sometimes recommended to cauterize the whole raw surface, so as to form a superficial eschar.

The treatment, after the operation, should be upon general principles. Everything should be done to insure union by first intention. When the patient has recovered from the immediate effects of the operation. he should be put on treatment intended to maintain his health as near the normal standard as possible. Above all, strict attention should be paid to his diet. A milk diet seems to fill the indication better than any other.

There are some circumstances under which surgical interference is contra-indicated :

1. No operation should be performed when the disease is congenital, or manifests itself soon after birth.

2. Interference should be avoided when the disease exists in several parts of the body.

3. Operation is never resorted to when the morbid growth has attained an unusual size ; when there is serious local involvement, or when there is marked evidence of cancerous cachexia.

4. When the disease advances very rapidly and breaks through its original boundary into the surrounding tissues, as a general rule an operation will not be attended with very satisfactory results.

5. A quickened pulse, occasioned by local irritation, usually indicates an unfavorable result if an operation be performed.

6. Latent cancer should not be tampered with.

7. An operation should not be performed when there is serious disease of an important internal organ.

Great relief is sometimes found to result from the use of arsenical preparations. It will sometimes change the character of the disease and accomplish good results. Commence with small doses and gradually increase until a grain and a half is reached, daily.

ARTICLES OF FOOD THAT ARE LAXATIVE.—Cracked wheat, oatmeal and Indian meal gruel, Graham bread, bran bread (¾ flour, ¼ bran), new potatoes, green corn, turnips, onions, apple sauce, rhubarb and gooseberries, stewed prunes, honey, molasses candy, fresh fruits (oranges, apples, pears, peaches, plums, apricots), dried fruits (raisins, figs, prunes, dates, tamarinds, dried apples, etc.), salad oil, porter, ale, cider, mineral water.—*Technics.*

TO REDUCE WEIGHT.—Eat, to the extent of satisfying a natural appetite, of lean meat, poultry, game, eggs, milk moderately, green vegetables, turnips, succulent fruits, tea or coffee. Drink limejuice, lemonade, and acid drinks. Avoid fat, butter, cream, sugar, pastry, rice, sago, tapioca, corn-starch, potatoes, carrots, beets, parsnips, and sweet wines. Exercise freely.—*Ibid.*

MODIFICATION OF MACEWING'S OPERATION FOR THE RADICAL CURE OF HERNIA.

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Abstract of Paper read before the Medical Society of the State of New York, February 3, 1887.

The results following the different operations for the radical cure of hernia are not sufficiently well known to enable us to say positively which is the best operation, but I am inclined to believe that some modification of the operation lately advocated by MacEwing, of Glasgow,* will, in most cases, give a better result than any other treatment thus far known.

I have lately had the opportunity of trying two different methods, and putting them to a pretty severe test.

A large inguinal hernia had existed in a well-developed laboring woman for a period of fifteen years. In March, 1886, I performed Czerny's operation for its radical cure. The sac was carefully enucleated from the surrounding tissues, but it was so large and hypertrophied by continued irritation that I tied the neck with a stout silk ligature, using Tait's Staffordshire knot. The pillars of the inguinal canal were then united with silver wire, silk-worm and catgut suture. Patient did perfectly well, and the dressings were not removed until the eighth day, and then because the patient had stained a portion of the dressing with urine. Wound was found united throughout the entire extent. A stitch-hole abscess and sinus soon developed in the tract

* See Annals of Surgery for August, 1886.

of one of the wire sutures. Six weeks after the operation I cut down on the sinuous tract and removed the silk ligature. The softened tissues were curetted away, and the large wound packed with iodoform gauze. The patient rapidly recovered, and resumed her occupation, that of a wash-woman.

In six months a small hernia returned at the seat of the cicatrix.

In November I again operated, intending to do MacEwing's new operation, but met with unforseen difficulties. The new sac was so thin and adherent in the line of the cicatrix that, in my attempts to enucleate it, I opened into the peritoneal cavity several times. I then determined to make an elliptical section of the whole abdominal wall, through the peritonæum and including the seat of the hernial sac, performing a true laparotomy. I then united, first, the peritonæum by a continuous catgut suture.

Now follows what I believe to be the important part of MacEwing's operation, the uniting of the fibrous aponurotic structures in a valve like manner. Instead of using a needle mounted on a handle as recommended by MacEwing, I used a suture of catgut with a needle threaded at both ends. Both needles were then passed, from within, outward through the internal pillar and then through the external pillar; four sutures were thus passed, when all were tightened and tied. Poupart's ligament was found to overlap the conjoint tendon in a valve-like manner, thus securing a broad surface for union. This seems to me a more simple operation than that recommended by MacEwing. The superficial structures were then united with catgut sutures and the whole seat of operation firmly matted together by a number of buried sutures after Martin's "darning" method. It is now two months since the first operation, and there is no sign of a return of the hernial protrusion.

I would suggest, in this connection, that if MacEwing's method of uniting the tendinous pillars were adopted in ordinary laparotomies, ventral hernia would be less common. It has always been my intention to securely coapt the fibrous tissues, and in six laparotomies I have had no sign of a ventral hernia in either case.

The photographs show the original condition of the hernia, and the result two months after the final operation.

The following case illustrates the method of procedure in a case of umbilical hernia; operation for the radical cure of irreducible umbilical hernia; removal of sac; suture of peritoneum and tendinous tissues; cure:

L—— S——, married; thirty-nine years of age; no children. Umbilical hernia appeared eight years ago; during the last six weeks had become inflamed and irreducible. Operation, vertical incision down to the sac; separation of tissues from margin of tendinous ring; sac opened; adherent omentum separated, ligatured and excised; margin of peritoneum sutured at level of abdominal parieties with a continuous catgut suture; tendinous fascia united according to MacEwing's method; other tissues united layer by layer with continuous catgut sutures; three rubber drains inserted; antiseptic dressing applied; minute antiseptic details followed throughout the operation. Dressing removed on the eighth day; primary union; bowels moved naturally on the fourth day. Recovery without incident.

The radical operation is justifiable in the following conditions:

1. Irreducible herniæ.
2. Congenital herniæ.
3. Large herniæ which cannot be restrained by the use of a truss.
4. All painful herniæ.
5. Herniæ existing in persons whose occupation subjects them to the dangers of a strangulated hernia.

CONCLUSION:

1. The operation should be performed under the most rigid and minute antiseptic precautions.

2. It is to all intents and purposes an abdominal section, and should preferably be performed by those who have been successful in this class of operations.

Under these conditions the operation becomes a very safe one.

To INCREASE WEIGHT.—Eat to the extent of satisfying a natural appetite, of fat meats, butter, cream, milk, cocoa, chocolate, bread, potatoes, peas, parsnips, carrots, beets, farinaceous foods, as Indian corn, rice, tapioca, sago, corn-starch pastry, custards, oatmeal, sugar, sweet wines, and ale. Avoid acids; exercise as little as possible; sleep all you can, and don't worry or fret.—*Ibid.*

THE WORK OF MICRO-ORGANISMS.

BY HIRAM CHRISTOPHER, M. D., OF MISSOURI.

At no time previous has there been a greater interest shown for bacterial investigation than that which has been so apparent and universal during the last few years; and though this interest, in a great measure, may have been excited by the desire to establish favorite theories or confirm preconceived opinions, still many facts have been gathered which at some future time may form material for a more rational hypothesis respecting the action of micro-organisms than any yet presented, and particularly as respects their connection with abnormal processes observed in both plants and animals. In this paper I propose to offer a few reflections on the action of these structures in general, and to discover, if possible, what relation micro-organisms sustain in the living world, and what connection they hold to morbid action, whether as cause or effect of such action. The discussion will be conducted mostly on general principles as affording the safest protection against self-deception.

By micro-organisms we mean those microscopic structures whose germs or spores exist so abundantly in the air, by whatever name called, whether germ, spore or egg, the *punctum saliens* of the perfected structure. They conform essentially to the universal law of the organic world, and have their analogues in the fecundated cell of the seed of plants and ova of animals. Originally they came into being by an act of creative power, and are perpetuated by the system of reproduction. Hence *omne vivum ab vivo* expresses the fundamental truth of the organic world. To this fundamental and universal law there is no exception; and whatever may be the form which the germ may present, whether a simple isolated cell, or whether imbeded in pabulum, as in the seed of phenogamous plants, or whether connected with parent during development, the fertilized cell is essentially the same in all living organisms of the organic kingdom.

All initial cells of new individuals arise from specialized cells of different sexes in which they have attained this specific character by differentation. In highly complex organisms, we have various kinds of cells, as respects structure and function, arising from a common initial point, the elements of special organs with specific function; but however the living cells of distinct organs may differ, they yet have the same essential elements of structure, namely, living matter, isolated by an investing membrane, and

thus made individual. We may, therefore, contemplate the highest and most complex organisms as but an aggregation of living cells, microscopical as to dimensions, and are analogous to individual micro-organisms. The two classes differ only in form and function. Could the differentiated cells of complex organisms, isolated and made to appear as individual organisms, the same as the infusoria, for instance, the analogy would become identity.

Cell-organisms of all kinds are essentially the same, in being encysted living matter. This matter is called living because it manifests vital phenomena. These are essentially and primarily motion, growth and reproduction, to which may be added differentiation. In the operation of these functions the life of species is continued on the earth, and all the various grades of structure and function are developed and maintained, while the basis of all vital operations lies in motion, without which life ceases. The primary work, therefore, of all living organisms is to ingest and assimilate food, that they may grow and reproduce. Such a work is constructive.

In the constructive work of life, there is, however, a destructive work. Construction follows immediately on the assimilation of pabulum, and destruction is a necessary attendant on the constructive process. The construction is from pabulum, and destruction comes of the use of the pabulum in the process of nutrition. The former gives us organic and living fabric; the latter, excretory substances arising from the operations of living cells in the discharge of their functions. These excretions are both organic and inorganic, as respects chemical constitution, a fact that shows that the nutritive process is the means by which organic matter of the pabulum in part is sent toward and back into the realm whence it was originally taken by the chlorophyl cells of plants. The process of food-making by these cells, which is a little better understood than food-assimilation, affords us some conception of the chemical changes in pabulum that take place in nutrition. When the elements of food, carbon dioxide, ammonia, in the main, dissolved in water, reach the chlorophyl cells of plants, found mostly in their leaves, these inorganic compounds undergo decomposition, on or during which new combinations are formed by which the substance called elaborated sap is produced, which serves the plant as food. In the chemical changes which take place in the preparation of the elaborated sap, oxygen is set free. It is the residuum of the chemical changes that take place in the living matter of the food-making cells. So, in the nutrition of animals, carbon dioxide and water are two inorganic compounds that result from the

changes that take place in the assimilation of food by the living cells of all kinds in complex organisms. These are excretions of inorganic structure, besides which there are also excretions of substances which are organic as respects their chemical constitution of a low grade of structure and unfit for any use in the organism, and more or less poisonous to its living matter. But such excretory substances may be, and in most instances are, nutritious pabulum for other organisms, as when voided urine swarms with bacteria or other micro-organisms. It is to be particularly noted, however, that in the excretions of all organisms, whether small or great, a part is inorganic matter, and a part organic of a constantly descending grade of structure, until it reaches a composition which is no longer susceptible of nutritive action, as are the carbohydrogens, so abundantly generated in plants.

Now as all changes which pabulum undergoes in complex organisms, are produced during the process of nutrition going on in the vital units of the organism, we have but to contemplate these living cells as micro-organisms to understand what the work of these is, and what are the results of their work. When we subject an infusion of animal matter to their action, we find that odorous gases are produced, some of which are inorganic as respects their composition; a film also covers the fluid, and this is organic matter; but both gas and film are excretory substances. After an exposure of several days, different odors will appear, and new organisms. So if we take some surface water from a pond covered by a scum, we will find certain organisms when first examined, and afterward other kinds. A few days are sufficient to exhibit these phenomena; but these exhibits will appear time after time in the same month. So, again, if such pools of water are examined during different months, or seasons, as in the spring, summer and fall, different species of organisms will be found characterizing the different months and seasons. These facts are cited simply to show that appearance or development of micro-organisms follows a universal law of the organic kingdom, which law is that temperature and food determine what species of micro-organisms will be developed or nourish in water in any particular locality. These conditions are the necessary antecedents and concomitants; but in no case the consequences of the appearance of micro-orgrnisms. When germs find the essential antecedents, they nourish and mature, and produce under like circumstances. Their excretions appear in the odorous gases and film which cover the surface of the fluid. These are in, or border on, the inorganic world, just as is observed in the excretions of the higher complex

organisms. Their action, therefore, is essentially the same as that of the vital units of the latter.

Organic molecules differ from the inorganic, as repects their chemical constitution, in the relative position of atoms in the molecules. In the carbonate of ammonia ($(NH_4)_2CO_3$) we have all the elements of a nitrogenous compound, but there is no nutrition in it. The cyanate of ammonia has the same chemical constitution as urea; but we find that only urea is nutritious to microorganisms. The inorganic salts are poisonous to them; and hence antiseptic. The difference between these and similar molecules lies in the relative position of their atoms in the molecules. This relative position makes the great difference. In the inorganic salts the position of the atoms is determined by chemism alone; in the organic nutritious molecules, by the same force, but dominated and directed by the vital. This difference is clearly seen in the action of the food-making cells of plants. Since, therefore, the vital force dominates the chemical in all organic compounds, and especially in those nearest the vital process, as the tissues of animals, organic substances are really more stable as repects chemical constitution, than are inorganic substances. This fact is stated here in order that the work of nutrition in the decomposition of organic compounds may be the more clearly apprehended and appreciated.

As the process of nutrition is the regularly established means of decomposing organic matter and of restoring its atomic elements to the realm whence they were taken by the food-making cells of plants; and as complex organisms effect but little, comparatively of this work, a great army of cormorants is spread everywhere, appointed to complete what was left undone by the higher forms, and, as the ultimate scavengers of the organic world, to consume the last vestige, and in their excretions to break up as far as this is possible, the organic reunion of atomic elements. Their work is the same as the higher, only they operate finally on the last vestiges of organic substances. They lie at the end of the long series of living organisms as we look downward; or at the beginning, as we look upward; and are intended, in the great work of Nature, to complete the work impossible of completion by the vital units of other and higher organisms, that work being the adjustment of the quantity of matter in the two kingdoms of Nature. Such an adjustment is necessary, since there is no loss of matter during the circuit it is made to take by the vital force from the world of dead matter upward through the varied and numerous forms of life, and then downward and back

again to the inorganic world. As inorganic matter is continually converted into organic, the adjustment requires that organic matter shall be continually and as regularly returned to the inorganic state. This we find to be done by the regular operation of the laws of life. The vital agent composes and decomposes organic matter, since its power dominates chemical force in all organic compounds.

The organic remains of living organisms that once lived and flourished on the earth, are but the inorganic constituents of those once living beings. Their perishable parts disappeared, as do those of living creatures at the present day. In all ages the proper adjustment between the two realms of matter has been preserved, so that no age has encroached on its successor by its unconsumed lifeless fabrics, except in those cases which *design* has marked as exceptions, as in the vast coal fields that were laid down in anticipation of their use by man. We thus see that in every age of the earth's history the work of life has been conservative in the main, and destructive only that its constructive work might continue uninterrupted. Life builds and life destroys.

While such has certainly been the work of life on the earth, and such its design, it would seem strange and anamolous if we should find any great department of the life-kingdom, as the microscopic world, set apart to the special work of destruction, and this only, as their connection with morbid action, as the cause presumes them to be. Were they capable by their presence and normal action, in their normal growth and development, of producing diseased action in healthy organisms, micro-organisms would, on account of their countless number, be more destructive of life than would all the beasts of prey, if they were given access to the great fields of animal life. As a fact, however, they are capable of doing no more in this direction than any other grade of living beings, nor by any different means or methods. Their poisonous excretions are the analogues of the poisonous substances formed in the higher organisms, as the acids, alkaloids and natural substances found in plants and animals, the products of the action of their living cells. When, therefore, micro-organisms are found associated with morbid action, their relation to such action is not that of cause; but one arising from the nature of the pabulum produced from the structures of the organism suffering from disease by the morbid action, and the character of the pabulum will be changed and no longer suited to the nutrition of the organisms, and they will disappear. Illustrations of this are numerous throughout the organic kingdom. But these organisms,

while rapidly multiplying in fluids that are nutritious, may, and possibly do, add to the morbid action by their excretions, just as urine in man will, by absorption, prove injurious or fatal.

These things being true there is not, and cannot be, such a thing as *a septic organism.* There are septic *substances*, and these in abundance. This is a matter familiar to every one. The saliva of a rabid dog, or the poisonous fluid of a venomous reptile is the product of a living organism, one laboring under a fatal disease, and the other in its normal state. So, as respects all animal and vegetable poisons, whatever the grade of the organism may be. These are all generated in the organisms, because they are mostly of an organic composition; and hence morbific agents may be organic *substances*, but not *living organisms.* After all the observations and experiments made to determine the relation of micro-organisms to morbid action, Klein says: "Amongst the legion of different species of micro-cocci and baccilli occurring in putrid substances, the great majority are quite harmless; when introduced into the body of an animal, they are unable to grow and multiply, and, therefore, unable to produce any disturbance." Some three or four species constitute the minority according to the same authority. And even when these few supposed septic organisms do occasion any disturbance in an organism, the same author further says that it is necessary to discriminate and "consider whether the relation of the specific micro-organism to the essence of the disease, or, in other words, the question whether the organism itself is the virus, or whether this latter is the product of the former. Something in the same way as the ferment is the product of the putrefactive organism." (Micro-Organisms and Disease, pp. 167, 180). This statement is a little cloudy from the use of ambiguous terms; but it is sufficiently so to lead us to understand that the author is not fully satisfied, and is not sure but that the excretory products of micro-organisms are the real virus or cause of morbid action.

Again: in regard to certain diseases which are supposed to be produced by septic germs, as "tubercle, glanders and swine-plague," in which the number of organisms is but few in comparison with the extent of the diseased surface, he further says that "the pathological condition brought about by the organisms is not due to the direct action of their numbers; but it is an indirect sequence brought about by definite chemical alterations in the blood or tissues, as the case may be." Respecting these "chemical alterations," he says that two theories may be assumed as possible:

1. "That these chemical effects are produced by the presence and

growth of the organisms, as truly as in the alcoholic fermentation of sugar, the alcohol produced is the result of the presence of the saccharomycetes," and,

2. "That the organism elaborates a specific ferment which, after a certain amount has been produced, sets up the particular pathological changes."

If we are to understand "chemical alterations" and "chemical effects" as meaning the products of nutritive action going on in micro-organisms, then the virus, producing morbid action, is not the organism itself, but the excreta of the organism. These are not properly chemical, but vital products, since they are the product of the vital force in the process of nutrition. So, under both assumptions, it is the excretory product of nutrition, active in micro-organisms, and not their bodies, that gives rise to the "particular pathological changes." This is, indeed, his own final conclusion. "From these considerations," he says, "it follows that the virus cannot be considered independent of the organism; we cannot assume that the two can be separated from one another; for the most feasable assumption, and the one borne out by observation is, that, owing to the multiplication of the organisms, certain chemical changes are produced in the blood and tissues, or that a special ferment is created, which sets up the anatomical changes characteristic of the particular disease" (pp. 182–3). This is somewhat obscure, but its very obscurity shows that the author of a volume on "*Micro-Organisms and Diseases*" is not fully convinced in his own mind that there are *any septic organisms.*

Investigations of the phenomena attending the development of micro-organisms in solutions of organic matter have thus far thrown the weight of facts against the assumption of spontaneous generation. It is now well nigh universally admitted that living beings have their origin in creative power, and have been multiplied on the earth by a system of reproduction by which one individual arises from the organism of another. If such investigations had been attended by no other result than this, the microscope would have proved itself to be an inestimable aid to scientific inquiry. But more than this has been learned from its relations in regard to the relative action of the vital and chemical forces. The sum of this knowledge may be stated in the form of a simple proposition, namely: *that spontaneous decomposition of organic matter*, or its decomposition under the action of physical agents alone, *is not a law of Nature.* That is to say, that organic matter does not decompose under the ordinary operation of purely chemical agents, commonly so-called. Facts prove that organic matter is really more stable in composition than inorganic. This we would naturally expect from the dominancy of the

vital force in all cases where it and the chemical act together. When once formed, the relations of the atoms in organic molecules, and their chemico-vital attraction, are not easily disturbed or broken. Even under the action of the vital force in the nutritive process, the descent of organic matter into the inorganic world is very slow and gradual. Sugar, for instance, an excretory product of the vital cells of plants, will remain unchanged forever if kept perfectly dry and free of albuminoid matter. Not until this and moisture are added will it undergo change as in fermentation. So with animal matter. Tyndall preserved infusions of this kind of matter hermetrically sealed in glass tubes for a year without change. If flesh be kept *perfectly* dry it will remain unchanged. Moisture and an albuminous compound are not necessary to chemical decomposition; but they are to the processes of fermentation and putrefaction, because solution of organic matter in water is necessary to the growth of micro-organisms on it. In and by their nutrition, organic matter takes its course upward into living matter and then downward and onward into the realm of pure matter. This is true of all organic matter that is nutritious. The leaves of trees do not decompose; but are consumed by fungus. The tree itself passes away by the same means. Rotten wood is but granular fungus. Such are the revelations of the microscope. It has pointed out the true process of Nature. What was once considered chemical is now known to be vital. The microscope has been our instructor. Chemical changes in organic matter are now known to be vital changes. Such is the decision of modern researches. "These have shown that the decomposition of organic matter in the soil [or anywhere else] is due to the vital activity of living organisms, and that a variety of chemical products is formed while it is taking place, some of which are assimilated by the micro-organisms which are the active agents in the process of decomposition, and some of which are set free—(Sternburg). As respects the properties of these "chemical products" of vital action he further says: "We do know that certain complex nitrogenous substances produce most violent toxic effects in minute doses. As examples of this we may mention the septic poison-sepsin, which has been obtained by Bergmann, by Panum, by Burdon-Sanderson from putrid animal matter; the ptomaines, which resemble the vegetable alkaloids in their reactions, and which have been studied by Selmi and Gautier, who obtained them not only from putrid blood, but also from normal secretions of healthy persons; and proteids obtained by Weir, Mitchell and Reichert from serpent venom." To the same purport Klein speaks: "Gaspard, Panum, Billroth, Burdon-Sanderson, Gutman, and Semmer, and many others, have shown that by putrefaction of animal substances, a substance can be obtained—the septic

poison, or sepsin—which can be isolated by various chemical processes destructive of every living organism, and which on injection into the vascular system of animals, especially dogs, in sufficient quantities, produces marked febrile rise of temperature, and is capable of causing death with the symptoms of acute poisoning; e. g. shivering, vomiting and purging, spasms, torpor, collapse and death."

These extracts corroborate the fundamental position taken in this paper, viz: that morbific agents are the excreta of living organisms, whether these be micric or macric. Putrid blood from which ptomaines were obtained was made putrid by the ptomaines, the excreta of micro-organs; and the secretions of healthy persons furnished ptomaines only after micro-organisms had developed in them and excreted these poisonous substances.

Such are the revelations of the microscope; such its service to sicentific investigation. Its use has led to better and more correct views of the vital operations in nature. If its revelations are not misinterpreted, it will protect the observer from self-imposition, and lead him into the paths of fact and truth. *Cum hocs*, *post hocs*, and *propter hocs* will be assigned their true position in phenomena, and science will continue to unfold the mysteries of Nature unimpeded by mistaken or illogical conclusions.

The Treatment of Hysterical Attacks.—Dr. Albert Ruault gives a simple method which he has found very efficacious in controlling an hysterical fit. It consists in making firm and constant pressure over the supraorbital nerve at its point of emergence from the supraorbital foramen. The head is held securely between the palms of the hands, while pressure is made over the nerve on each side with the thumbs. The writer says that the patients under this treatment first contract the facial muscles with an expression of pain, cry out, and then take several quick successive inspirations. The breath is held for a few seconds, and then, with a long expiration, the muscles relax and the attack is ended. The pressure of the thumb must now be relaxed, otherwise it may have the opposite effect and excite another convulsion. Pressure over any nerve-trunk at the point where it becomes superficial will have the same effect; but the supraorbital nerves are chosen because of their convenient situation.—*France Medicale.*

Pyridine in Asthma.—The *Quarterly Therapeutic Review* contains the following extract from the *Union Medicale:* "Pyridine is valuable as an anti-asthmatic, whether the affection is of cardiac origin, or otherwise. About a drachm of the drug is placed on a plate in a small room, to which the patient pays periodical visits of from twenty to thirty minutes' duration three times a day. After two or three *seances* the rales in the chest disappear, the expectoration is more free, and sleep is obtained at night, or, at all events, relief from the asthmatic attacks. In some cases the improvement is permanent, in others it only lasts unimpaired for five or six days. Iodine treatment is then required, which is usually efficacious, but which can not be borne by all patients."—*National Druggist.*

ABSTRACTS AND GLEANINGS.

Treatment of Hemorrhagic Malarial Fever.—In the milder forms of the disease, this is simple, easy, and successful, as already illustrated in the cited cases of Dr's Bemiss and Harley, a few doses of calomel, followed with quinine, being all that was necessary. When, however, the type is violent and malignant, we will have ample scope for the exercise of our deepest thought and grandest skill. In these malignant cases the patient will be troubled from the onset with distressing nausea, frequent retching and vomiting of a greenish fluid with mucous flocculi, the pulse will be small, frequent and feeble, the skin shriveled and surface cool or cold, with shrunken and pinched features, and the frequent emission of dark, bloody urine, presenting the appearance of disintegrated and broken down red-blood cells, loaded with the bile pigments in the form of small black granules. In all such cases the urine when carefully examined with the microscope will be found almost, if not entirely, without a single red-blood corpuscle. These are the severer types of this disease, most malignant in character, that claim our attention. When called to a case of this type we should promptly apply dry cups to the epigastrium and right hypocondrium, with a view to derive the blood from the congested vessels of the stomach and liver to the cutaneous surface, and follow the cups by a blistering plaster over the same regions to maintain the circulation in the skin and to aid in stimulating the liver to its secretory action. Give hypodermic injections of morphia to quiet nervous irritation and to compose the stomach to rest. Give to adults 5 grains of calomel with 3 grains of bi-carb. soda every three to four hours till the alvine discharges show the presence of bile, and the liver again resumes its work; after three or four doses have been given, if the bowels have not been moved, give enemas of plain warm water, or containing a desertspoonful of camphorated oil, or a small teaspoonful of table salt. If the stomach should still be troubled with nausea or tendency that way, give an emulsion, each dose consisting of 1 drop creasote, 1-12 to $\frac{1}{8}$ sulph. morphia, 3 grains bi-carb. sod., and a drachm aqua menthæ, and repeat every two to three hours as long as required. Frictions over the back with dry mustard and pulv. capsicum, as also to the arms and legs, should be assiduously applied, supplemented with dry heat to the body. As soon as the calomel has produced a well-marked bilious fecal discharge, or reaction is manifest, no time should be lost in pushing quinine, but not in doses too large. It is all a mistake and highly mischievous to give very large doses of quinine, except in the congestive pernicious forms of intermittent fever, where it is an absolute necessity to prevent the recurrence of another paroxysm. But in this disease, with this type, 5 to 10 grains every three to five hours, till there is slight manifestations of cinchonism, and then at longer intervals, so as to keep up a moderate impression, for the purpose of antagonizing the malarial poison and giving tone to the nervous centers.

The quinine, if the stomach will not tolerate it, should be given hypodermatically, which is the preferable plan, on account of the danger of again setting up nausea and vomiting. As soon as the function of the liver is measurably or appreciably established, and enough quinine has been introduced into the system to make its physiological effects manifest; commence to give the muriated tinct. of iron in full doses, 20 to 30 drops every four hours, with a view of toning up the debilitated blood-vessels, reconstructing and vitalizing the hæmoglobin and the red-blood corpuscles, and thus restoring the normal and vital condition of the blood. If the kidneys should fail to excrete urine, use frequent frictions over the lumbar region with warm whisky, spts. turpentine and tinct. digitalis, which will often be found efficient in stimulating the kidneys; indeed it will always be found useful both in stimulating the kidneys and acting favorably upon the mucous membranes, both of the stomach and bowels and of the urinary passages.

I have now given in detail my convictions of the etiology and essential nature of this disease, together with my plan of treatment and the medicines used, which I would recommend as being fairly successful—certainly as much so, if not more, than under other and diverse plans which I have seen others practice—and withal it is so rational and fulfills so completely every pathological condition and indication of treatment that even when not successful, for some must of necessity die, that the physician's mind is left with the composing reflection that he could have done nothing more to turn away the shafts of death and bring his patient back to health again.

I have concluded my paper without any reference to the dietary. Every physician will know that with such a broken-down state of the blood, and such a debilitated and impoverished condition of the digestive and assimilating organs, that the necessity for feeding is great, but that only the most nutritious and most easily digested and assimilable foods should be allowed, and they given in small portions, but often repeated, increasing the quantity, *pari passu*, with the improving strength.

As soon as the patient will bear moving, a dry, bracing atmosphere and a healthy location should be sought, and the patient advised not to return to his malarious home, for we should never forget the pertinacity of the poison. Says Dr. Harley, "In fact, the poison of the worst forms of malaria seems to saturate the tissues and adhere to the constitution with as much tenacity as the poison of syphilis; for there is no period of an individual's life, after he has once had a bad attack of malaria, at which he may be said to have completely gotten over it."—*Dr. Day in La. Medical Society.*

Collodion of Iodoform has been successfully used for the relief of neuralgia, and is usually prepared by dissolving 1 part of iodoform in 15 parts of collodion. Occasionally 10 per cent., and even 25 per cent. solutions have been employed.—*Nouv. Remedes*, 1886, p. 525. An older formula by James directs iodoform 5, balsam of Peru 5, powdered soap 5, and collodion 85 parts.

The Subiodide of Bismuth in the Treatment of Ulcerations.—The subiodide of bismuth unites the properties of iodine and bismuth; the former acts upon granulation tissues, inducing an increase of all normal physiological processes, producing a protoplasmic energy ordinarily obtained only by congestion, hyperæmia or inflammation, and induces a reversion of the tissues to an embryonic state; it imparts a formative influence or force to the cellular elements of the three germinal or blastodermic layers and their derivatives, closely approximating the laws of normal development; its specific action in certain dyscrasiæ and its antiseptic power, inhibiting germ development in the proportion of 1 to 4,000 add to its efficiency. Bismuth unites with the albumen, forming an albuminate, which acts as a sedative, aseptic, impermeable coating on the granulations, retarding the evaporation of the cellular moisture, modifying the formation of a striated connective tissue from the gelatinous intercellular substance, and prevents the retrograde metamorphosis of the white blood corpuscles. Summarizing the physical and therapeutic properties of the subiodide, it may be said that,

1. It subdues the inflammatory process.
2. It substitutes the inflammatory regeneration of tissue, with a neoplastic force, which closely simulates normal embryonic histogenesis.
3. It is by its action a vital antiseptic, supporting life, promoting nutrition and maintaining the integrity of the tissues.
4. It prevents the formation of pus.
5. It lessens direct and reflex irritability.
6. It is so bland and unirritating that it can be used on any surface.

Under the use of subiodide of bismuth, ulcers, which usually heal by cicatrization at the rate of one-half to one line per da,y have been seen to dermatize at the rate of three to five lines per day; the cicatrix is fleshy and firm, and is but little disposed to destructive inflammations or subsequent alterations even over syphilitic sores. Certain ulcers of particular origin may require some radical or specific treatment to convert them to simple forms of ulcer or to remove pathological elements, which would retard healthy tissue formation. The dressing is applied as a dry powder.—*Dr. Reynolds in Medical News.*

Triple Contagion of Tuberculosis—from Man to Man, from Man to Fowls, and from Fowls to Man.—Dr. de Lamaileree publishes, in the *Gazette Medicale de Paris*, the following interesting facts: The little village of C. is a most healthy spot, being about 2,000 feet above the level of the sea. Epidemics are there unknown, and the inhabitants of this village generally die of old age or pneumonia. In 1872 a young man who had contracted bronchitis whilst a prisoner in Germany during the war, settled down in this village. He married a strong, healthy girl; soon afterwards he began to spit blood, and died of consumption two months after the birth of a son, and within a year of his marriage Soon after his death his wife, who had nursed him, had bronchitis,

which became chronic, and in a little while tuberculosis of the lungs was manifested. The child had successive attacks of bronchitis, and rapidly developed consumption. Cavities formed in the woman's lungs, and she expectorated abundantly. A short time ago the physician attending her was called to a young woman in the same village who showed evident signs of pulmonary phthisis. The house was at some distance from that of the first female patient. The second patient was a woman, aged twenty-nine, and of a robust constitution. A careful examination revealed that she rarely went to the house of her neighbor, who had contracted consumption, and never ate or slept there, but that she had eaten the flesh of eleven fowls which had died at her invalid neighbor's during the space of four months. She had eaten them very underdone, believing that they were most nourishing when but slightly cooked. It was discovered that these fowls had swallowed some of the sputa expectorated by the first patient. The birds had been seen to collect round her whenever she coughed. On making a necropsy of one of the fowls which had just died, it was found that the intestines and liver were filled with tubercles. The fowl had become very emaciated, and could hardly move; the purulent liquid found in the tubercules contained in the liver was filled with bacilli tuberculosis. It was probable that the other birds had perished from the same cause. These fowls must, therefore, have been the means of conveying the contagion to the second woman who had eaten them. In this case there is the triple contagion of tuberculosis.

1. From man to man.
2. From men to animals.
3. From animals to men.

Contagion from man to man is already a scientific fact. Contagion from men to animals had been admitted by many writers, but others have stated that certain animals, amongst which are fowls, could not be inoculated. This case shows clearly that fowls are as liable to contract tuberculosis as other animals, such as cats and dogs. Contagion from animals to men is clearly demonstrated in this case. Up to this time the only known vehicle of contagion was cow's milk; now it is shown that the bacillus can also be carried through fowls. It is important, then, to pay great attention to the health of fowls, destined for food, and it would be worth while to find out how soon after the fowl has begun to suffer from tuberculosis it can infect those eating it, and also how much cooking will destroy the bacilli.—*British Medical Journal.*

Measles.—This winter measles has prevailed very extensively, and we are likely to have a season of it. It is not worth while to say anything about diagnosis, for this is one disease in which diagnosis is clear; but I am not so sure about the treatment. Certainly our *regular* neighbors have a most vicious treatment.

I will say first that measles can be successfully treated with *hot water* alone. Let it be drank freely, and if the patient complains of any point of pain, let it be sponged with hot water and covered with dry hot flannel.

My medication of measles is somewhat stereotyped, but it is very satisfactory. To a half glass of water add a half-teaspoonful of asclepias and five drops of droseria, and give a teaspoonful every hour.

When there is the slightest duskiness of surface, alternate the above with baptisia. I do not think we would hear of so many deaths from "*black* measles," if baptisia was used.—*Cincinnati Eclectic Medical Journal.*

Dangers of Santonin.—Dr. Laure, at a recent meeting of the Lyons Medical Society, related an interesting case of santonin-poisoning. On December 25, last, he was called to visit a child three-and-a-half years old. The patient was lying on his back, in a state of deep prostration, now and then interrupted by sharp cries. The child then would bend up its knees, and place its hands on its abdomen, apparently the seat of the pain. This fit over, he would fall again into the former somnolence. The face was of a livid paleness, the pupils dilated, breathing frequent, the pulse rapid and irregular, while the rectal temperature remained below 37° C. (98.6° F.). The stomach would immediately reject anything ingested.

As regards the dose of santonin, Dr. Laure thinks the rule laid down by Benzinger, viz, as many grains as the child has years, four days in succession, is one that should be regarded with suspicion. He prefers Wood's advice—not to exceed one grain for a child less than two years. Dr. Laure is also of opinion that it is very desirable to combine santonin with a purgative; calomel, for instance. As to the antidotes of santonin, ether, and especially chloral, have been recommended as the best by Becker and Binz. In a case when convulsions or nervous troubles occur, they would have been used willingly. But in the case just narrated it was thought more advisable to facilitate the elimination of the poison by the kidneys and bowels, and afterwards to administer tonics.—*Therapeutic Gazette.*

A Speedy Cure of Whooping Cough.—Mohn, a Norwegian physician, had in his own family a case of scarlatina and whooping-cough. After the violence of the scarlatinal attack had subsided, but while the whooping-cough was still present, Mohn disinfected the child's bedding with the fumes of sulphur. Just previous to the fumigation the child had a severe paroxysm of coughing, which led the father to hesitate in his employment of the sulphur. He was surprised and gratified, however, to observe that the disease was cured; and the patient's sister, who had a cough, the sequela of pertusis, was also cured. These children were not included in the fumigation intentionally, but inhaled such vapor as casually permeated their apartment.

In a subsequent severe case, the writer, after the failure of other means, had recourse again to inhalations of sulphur gas, with prompt success. He cites successful cases of five months in age, and children of varying ages have been cured in this manner. He proceeds as follows: The patients are dressed in clean linen, and

taken from their bedroom to another room. In their absence bedding, furniture, playthings, linen, clothing, everything which the sick-room contained is so arranged that the fumes of sulphur can penetrate to all. Six and a half drachms of sulphur per cubic metre of air-space in the room are burned, and the fumes allowed to permeate the room for five hours. At evening the child is taken back to the sick-room and put in a bed which was disinfected; it awakes the next morning cured.—*Revue Internationale.*

Cold Bathing.—*The Lancet* says the use of cold water as a bath for ordinary health purposes—we are not speaking of its use for the strictly medical purposes of reducing the temperature of the body in certain states of diseases—is purely reactionary. The cold bath is only useful, or even safe, when it produces a rapid return of blood to the surface immediately after the first impression made, whether by immersion or affusion. The surface must quickly redden, and there must be a glow of heat. If these effects are not rapidly apparent, cold bathing is bad; and no such effects are likely to be produced unless the circulation be vigorous and both the heart and blood vessels are healthy. Great mistakes are made, and serious risks are often incurred, by the unintelligent use of the cold bath by the weakly or unsound. Moreover, it is necessary to bear in mind that there is seldom too much energy to spare after middle age, and it is seldom expedient for persons much over forty to risk cold bathing. We would go so far as to say that no one above that age should use the tub quite cold unless under medical advice. It is possible to be apparently robust and, for all the average purposes of life, healthy, and yet to have such disabilities arising out of organic disease or weakness as to render the recourse to heroic measures, even in the matter of cold bathing, perilous.—*Maryland Medical Journal.*

Point of Diagnosis in Rotheln.—In the *Lancet*, April, 1886, p. 785, Dr. Glover says he has noticed the earliest symptom to excite notice in cases of rotheln or German measles, is a swollen gland in the neck at the back of sterno-mastoid muscle. This symptom he has noticed four or five days before the rash appears. When disease is prevalent, or already exists in a family, and a swollen cervical gland in a young person appears, without obvious reason, it may be suspected that the system is already infected.—*Southern Practitioner.*

Management of Simple Constipation.—Sir Andrew Clark gives the following instructions for the management of simple constipation:

1. On first waking in the morning, and also on going to bed at night, sip slowly from a quarter to half a pint of water, cold or hot.

2. On rising, take a cold or tepid sponge-bath followed by a brisk general toweling.

3. Clothe warmly and loosely; see that there is no constriction about the waist.

4. Take three simple but liberal meals daily; and, if desired, and it does not disagree, take also a slice of bread and butter and a cup of tea in the afternoon. When the tea is used it should not be hot or strong, or infused over five minutes. Avoid pickles, spices, curries, salted or otherwise preserved provisions, pies, pastry, cheese, jams, dried fruits, nuts, all coarse, hard, and indigestible foods taken with a view of moving the bowels, strong tea, and much hot liquid of any kind, with meals.

5. Walk at least half an hour twice daily.

6. Avoid sitting and working long in such a position as will compress or constrict the bowels.

7. Solicit the action of the bowels every day after breakfast, and be patient in soliciting. If you fail in procuring relief one day, wait until the following day when you will renew the solicitation at the appointed time. And if you fail the second day, you may, continuing the daily solicitation, wait until the fourth day, when assistance should be taken. The simplest and best will be a small enema of equal parts of olive oil and water. The action of this injection will be greatly helped by taking it with the hip raised, and by previously anointing the anus and the lower part of the rectum with vaseline or with oil.

8. If the use of drugs is unavoidable, try the aloin pill. Take one-half an hour before the last meal of the day, or just as much of one as will suffice to move the bowels in a natural way the next day after breakfast. If it should produce a very copious motion, or several more small motions, the pill is not acting aright; only a fourth, or even less, should be taken for a dose. When the right dose is found it may be taken daily, or on alternate days, until the habit of daily defecation is established. Then the dose of the pill should be slowly diminished, and eventually artificial help should be withdrawn. The aloin pill is thus composed:

℞. Aloinæ.....gr. ss,
Extr. nucis vom.....gr. ss,
Ferri sulph.....gr. ss,
Pulv. myrrhæ.....gr. ss,
Saponis.....gr. ss,
Fiat pil. i.

[We suggest *ipecac*, ss grain, in place of the *sulph. ferri* in the above pill.—ED. RECORD.]

If the aloin pill gripes, provokes the discharge of much mucus, or otherwise disagrees, substitute the fluid extract of cascara sagrada, and take from 5 to 20 drops in an ounce of water, either on retiring to bed or before dinner. And when neither aloin nor cascara agrees, you may succeed by taking before the midday meal 2 or 3 grains each of dried carbonate of soda and powdered rhubarb.

The exact agent employed for the relief of constipation is of much less importance than its mode of operation. If, whatever the agent may be, it succeeds in producing after the manner of nature one moderate formed stool, it may be, if necessary, con-

tinued indefinitely without fear of injurious effects. But treated upon physiological considerations, I have the belief that in the great majority of cases simple constipation may be overcome without recourse to aperients.—*London Lancet.*

The Rational Treatment of Patients After Cataract Operations.—At the Chicago Society of Opthalmology (*Chicago Medical Journal*) Dr. F. C. Hotz read a paper on the subject:

Though the safety of the eye is of prime importance, we must, in our anxiety for the recovery of this organ, not entirely disregard the comfort of the patient, for we have no right to deprive our patients of any comfort which does not disturb the healing process. The usual treatment after cataract operations is anything but pleasant to the patient, and many dread the confinement to bed, and in a dark room, worse than the operation itself. If it can be shown that such measures are superfluous, they should be abandoned.

When a wound is carefully cleansed and thoroughly disinfected, and its edges are nicely approximated, it will heal by first union, provided the close adaptation of its edges is not disturbed by external violence or by muscular tractions. Rest of the wounded part is the first condition for kind healing. But to rest the eyeball it is not necessary to put the patient to bed; we can secure the necessary rest for the operated eye., i. e., we suspend the functions of the ocular muscles and immobilize the eyelids by bandaging *both* eyes. As long as they are closed they remain comparatively motionless. The bandage over both eyes accomplishes this result just as well whether the patient is in bed or sitting in a chair. The confinement to bed, therefore, is irrational, and the recumbent posture is not only of no advantage, but may even disturb the healing, because it favors the flow of blood to the head; consequently congestion of the ocular tissues is more likely to occur in the recumbent posture than when the patient is sitting up.

The uselessness of darkening the room will be apparent to everyone who will bandage his own eyes just in the same manner as we dress the eyes after cataract operations. The bandage shuts off the light so thoroughly that we will be unable to tell whether the room is light or dark. To the patient it is immaterial, but to his attendant it is a great comfort to have light in the room.

In regard to the dressing there is a difference of opinion: the majority of oculists employing the pads and bandage; some closing the eyelids only by strips of plaster, and others discarding all dressings.

If we dispense with the dark room, we cannot leave the eyes without dressing, because the winking of the eyelids and the constant rotations of the eyeball would disturb the wound and cause a good deal of irritation.

The plaster strips overcome this difficulty; but they do not give the eye any protection against mechanical insults which might cause a re-opening of the freshly united wound. The bandage with padding of absorbent cotton or any other soft material se-

cures to the eye rest and protection against accidents and is therefore to be recommended as the most rational dressing. The flannel roller is open to the objection of being easily disarranged by the movements of the head on the pillow; but a roller of mosquito netting or Swiss gauze applied wet, forms, when dry, an immovable bandage which does not become loose, and keeps nicely adjusted for any length of time.

The sensitiveness of the operated eye to bright light is not due to the bandage; it varies greatly in different persons; some even do not show it at all. Where it exists it only shows that the eye has not completely recovered from the effects of the operation though the external wound may appear well healed. With the eyes well bandaged my patients are sitting in easy or rocking chairs, in light rooms, and are even allowed to take an exercising walk in their rooms; they go to bed when they please, and get up whenever they like. I have never observed any complication or accident which could directly or indirectly be attributed to this mode or treatment. The recovery was as rapid and the results as good as under the old-fashioned regime.

Clergyman's Sore-Throat.—Thos. Whipman, M. B. (*Lancet*, Sept. 4), in an article on this subject, compares the lawyer's and clergyman's method of delivery; he says, to ascertain what happens when the clergyman or the barrister is addressing an audience it is only necessary that one read aloud, holding his head erect as the barrister does, with his chin slightly elevated; and then continue to read in the same tone, but allow his head to fall forwards as the clergyman does, so that his head shall nearly rest on the sternum. The change in the voice will at once strike the listener who will straightway appreciate the muffled and indistinct tones which accompany the forward inclination of the reader's head. In two severe cases of the disease the writer applied glycerineboracis at first, and astringents subsequently, with rest, and a habit of holding up the head during delivery. Both patients expressed in strong terms their sense of "a speedy relief to their sufferings" owing to the ease and comfort with which their services were performed with the head in the natural position.—*N. E. Medical Monthly.*

Treatment of Chronic Ulcers.—Heidenhain says that the best method of dealing with old chronic ulcers, especially of the leg, is to dress them with a considerable thickness of absorbent cotton. The cotton is pressed upon the ulcers by a roller bandage, and is allowed to remain undisturbed until, after the lapse of five days or a week, the secretions come through. Then it will be found that delicate healthy granulations have sprung up in place of the dirty necrotic appearance erstwhile presented, and the torpid callous margins are considerably improved in appearance. The dressing is then re-applied and changed as before. The advantage of this method lies in its being absolutely painless. No septic infection need be feared from absorption of pus. The dressing remains sweet until it is so saturated that the discharge

comes through, when a change should at once be made. By actual experiment, the superiority of this dressing over the method of compression by adhesive plaster strips has been demonstrated.

After the cotton dressings are no longer needed, the surface may be dressed with zinc ointment, after irrigation with carbolic acid; if more stimulation is desired, a 2½-per cent. iodoform ointment answers admirably. Grafting should be employed if the ulcer is of great extent.

In order that the new formed skin does not crack and break, when the limb is again put to use, it is advisable to oblige your patients to take some exercise during the process of repair. The ulcer does not heal so quickly as if absolute rest be observed, but the result is a more permanent one. In such cases that are obliged to be a bed on account of the large size of the ulcer, Heidenhain has found it of great advantage to bandage the legs in a flexed position. Thus the skin and the soft parts are kept at a certain tension during the healing process. If the limb be kept at rest fully extended, the cicatrix will surely tear open when walking is resumed. To keep the leg flexed, the use of a double inclined plane is very serviceable.—*Weekly Medical Review.*

The Cure of Large Ulcers of the Leg by the Carbolized Spray.—Giles de la Tourette, of Paris, presents in detail three cases of stubborn ulcers of the leg in inmates of the *Infirmery des Incurables* connected with the service of Charcot. The general condition of the patients was of the worst description. The first was an extremely debilitated and emaciated subject of asthma conjoined with chronic bronchitis, sixty-nine years old, presenting an enormous ulcer covering the whole right leg, from the malleoli to within an inch of the tuberosity of the tibia. The carbolic spray for an hour and a half morning and evening, with intermediate dressing with borated vaseline, caused a complete cure in less than a month. The second was an ulcer, eighteen centimeters high, covering the lower half of the leg in a patient eighty two years of age, feeble and senile, and the subject of chronic bronchitis. Carbolized spray for two hours twice a day with borated vaseline dressing in the intervals, secured a complete cure in about six weeks. The third case occurred in a syphilitic subject, with mitral insufficiency, tertiary syphilis and chronic bronchitis, aged fifty nine, with a vast ulcer, twenty-two centimeters long, enveloping the whole leg. Carbolic spray applied during the next six months had brought the ulcer down to about the size of a six sous piece when the patient died by his own hand. As the result of his observations, the author concludes:

1. The method of carbolic spray repeated daily for an hour and a half, morning and evening, better than any other method leads to a rapid cure of large varicose ulcers.

2. In the early part of the treatment, the pains seated in the ulcer disappear. In the three cases observed, no erythema ever appeared at the margin of the wound, nor did the patient ever void the black urine indicating carbolic poisoning.

3. A state of debility or senilty of the patient does not in any

way contra-indicate the employment of the method, which, on the contrary, by the local stimulation, which it determines, seems formally indicated in this particular case.

4. The solutions used are the stronger, as the ulcer is the more atonic; solutions less than 1 to 50 should be rejected and even the greater strength, 1-30, 1-20, or even 1-10 could be used. In the interval between the applications of the spray, a dressing of borate of soda and vaseline, 1 to 10 will be found useful.—*Revue de Chirurgie, July, 1886.—Annals of Surgery, March, 1887.*

Inoculation as a Preventive of Yellow Fever. — Dr. Bustamente, of Cucuta, Colombia, says of this subject: "Dr. Urricoechea, surgeon of the frontier battalion, inoculated, by way of experiment, and with good results, five of his soldiers. Twenty minutes after the operation the temperature gradually ascended to 40°C., accompanied with all the symptoms of yellow fever. This lasted forty hours, at the expiration of which had disappeared the fever and all attendant symptoms. This operation was effected in a place called Moras, three leagues from Cucuta, and where a body of troops were stationed, who have not come to this city for fear of the fever. At present the inoculated soldiers are here, exposed to the action of the focus of infection. As in Moras, no case of the epidemic has as yet presented itself." Dr. Bustamente, in his letter, states that "as my labors in the field of inoculation, as a preventive of yellow fever are only, it may be said, mere experiments, which, although they may satisfy me with a well-founded hope of successful and complete result, cannot be of genuine utility until the best and most efficacious method is decided upon. I am thinking, however, of making an abstract of my observations, together with the method pursued, the results obtained, and everything that may be useful in the premises. For the present I will confine myself to the statement that in more than forty persons whom I have inoculated, a fever, with many of the characteristic symptoms of yellow fever, has presented itself; this fever, developed by inoculation, varying several tenths of a degree, and in some cases ascending to 41° C., but never presenting the most grave symptoms of yellow fever. The result of my observations permits me to state positively that the fever produced by inoculation is attended with no danger, and it is safe to inoculate, as I have already done, from children of two years of age to the oldest individuals. Many of the persons inoculated have come to this city, and in no case has the yellow fever attacked them, which gives me hope of a final result completely satisfactory. The municipality, assisted by the merchants sent to Mexico, January 10, a commission composed of two physicians, in order to study the inocculation of the fever."—*Med. and Sur. Reporter.*

The Etiology of Dysentery.—In a communication to the Bohemian Medical Society Prof. Hlava gives an account of a number of observations he has made on the subject of the etiology of dysentery. He examined the stools and the bowels with their contents post mortem in sixty cases of epidemic dysentery, also

in two cases of a sporadic nature, and in ten where the symptoms of dysentery were developed as complications of other diseases. He also injected the fresh stools of dysenteric patients into the rectum or duodenum in seventeen dogs, six cats, eight rabbits, hens, and porpoises, and made seventy cultivations of bacteria of various kinds found in dysenteric stools. The conclusion he arrived at was that bacteria are not the cause of dysentery, for none of the micro-organisms were reproduced in the animals experimented upon, only a transitory catarrh being found. No qualitative anatomical distinction could be made out between cases of epidemic and of sporadic origin. Prof. Hlava investigated the amœbiform, large-grained protoplasm which he found in the dejections in considerable quantity in sixty-five cases, and on the intestinal mucous membrane and in the submucous tissue in twenty cases. On putting these bodies under the microscope, he found that the amœboid movements continued for ten hours. He has commenced a series of observations on the effects of injecting them into the intestines of animals, with the object of showing that these bodies have a causal relation to the disease.—*Medical and Surgical Reporter.*

The Use of Spleen-Pulp in Anæmia.—Maragliano has reported the results of his experiments with spleen-pulp in cases of impoverished blood and the conditions depending upon it. The pulp was given with an emulsion of bitter almonds in accordance with the following formula:

℞. Emuls. amygd., amar.....ʒ x.
Pulpæ splenic.....ʒ iv,
Spt. vini gallici (cognac).....ʒ ii.

This amount was given in twenty-four hours with meals. The diet consisted of soup with rice, or bread, at eight o'clock in the morning; a second soup, with four ounces of meat and bread, with a glass of wine, at noon; and a third soup at six in the evening. Five cases of chloroses were treated in this manner, with the result, in from eight to twenty-five days, as follows: increase of general strength, increase of red blood-corpuscles; rapidly restored functional activity of the nervous, digestive, circulatory, and urinary mechanism; increase of arterial tension and body-weight. The number of cases is manifestly too small for accurate results, but sufficiently large to awaken interest in the mode of treatment.—*Deutsche Medizinial Zietung.*

A writer in the *Mass. Med. Journal* recommends for burns penciling with equal parts of sweet oil and white of eggs, and then applying an ointment composed of one drachm finely powdered alum, two ounces sweet oil, and a teacupful of fresh lard.—*Medical World.*

Drumin.—*Rundschau* (Prag) states that Reid isolated an alkaloid from *Euphorbia drumondii*, Boiss., growing in Australia, which he named drumin. The anæsthetic properties of drumin are almost identical with those of cocaine.

SCIENTIFIC ITEMS.

On Sugar in the Blood.—A series of scientific and profound researches has been completed by Prof. Seegen, of Vienna, which has as its result the establishment of the fact that sugar formed by the liver is derived from albumen and fat.

A portion of the results obtained were published sometime ago, and the general conclusions of the whole work are as follows:

1. That the blood passing from the liver contains an infinitely greater quantity of sugar than that entering the organ.

2. The newly formed sugar in the liver is wholly independent of saccharine food, as well as the carbo-hydrates introduced with the food.

3. Even the liver glycogen is unconcerned in the production of sugar in the liver.

4. Albumen and fat are the materials out of which the liver forms sugar

The fact that sugar is formed from fat is a new one, and is not in accord with the previously entertained chemical and physiological ideas. It appeared to the author, therefore, of much interest to experimentally demonstrate the conversion of fat into sugar. This was accomplished by bringing together fatty bodies and blood with finely divided liver substance. The settlement of this question, that sugar is formed from fat by the liver, seems to point to that organ as the great laboratory in which the food is changed for the purposes of life, for the performance of work and the production of heat. It has a great practical significance, inasmuch as it teaches us the full worth of fat as material for food.—*Medical Review.*

Does Consciousness Continue after Decapitation?—On the 31st of January, Mr. Hayem read an interesting communication before the French Academy of Sciences upon the effect of transferring the blood of the horse into the head of animals that have just been decapitated. He finds in the first place, that when the head of a dog is suddenly severed from the body, the eyes for sometime execute motions of anxiety, the jaws forcibly open and close, the eyes afterward become fixed, the nostrils dilate, the labial commissures contract, and the tongue contracts to the back of the mouth. A few seconds later, a few respiratory efforts are remarked, and finally the head becomes inert. These phenomena, as a whole, never last more than two minutes.

If, as soon as the decapitation has been effected, the carotids are put in communication with the cubital artery of the horse, the vital manifestations are observed to last half an hour. Finally, if the transfusion is not effected until the head has become inert, the various vital manifestations mentioned above reappear, but definitely cease at the end of a few minutes.

Mr. Hayem concludes that the extinction of will and sensation is very rapid, if not immediate. Conscious life may, nevertheless, be prolonged for a moment by transfusion, when the operation is

performed immediately after decapitation; but in the case of the recall to life of an inert head, nothing but automatic motions, without any trace of will, or consciousness even, can be perceived.

Analogous experiments had already been performed by the learned physiologist Brown-Sequard, who came to the conclusion that the will returns to the head of a dog freshly severed from the body. Since then, this opinion has been submitted to no sort of verification. The experiments of Mr. Laborde with human heads that had been severed from the body for over an hour were performed under conditions where success was an impossibility.—*Scientific American.*

Asbestos Paper.—Mr. Ladewig has devised a process of manufacturing from asbestos fiber a pulp and a paper that resists the action of fire and water, that absorb no moisture, and the former of which (the pulp) may be used as a stuffing and for the joints of engines.

The process of manufacture consists in mixing about 25 per cent. of asbestos fiber with about from 25 to 35 per cent. of powdered sulphate of alumina. This mixture is moistened with an aqueous solution of chloride of zinc. The mixture is again washed, and then treated with a solution composed of 1 part of resin soap and 8 or 10 parts of water mixed with an equal bulk of sulphate of alumina, which should be as pure as possible. The mixture thus obtained should have a slightly pulpy consistency. Finally, there is added to it 35 per cent. of powdered asbestos and 5 to 8 per cent. of white barytes. This pulp is treated with water in an ordinary paper machine and worked just like paper pulp.

In order to manufacture from it a solid cardboard, proof against fire and water, and capable of serving as a roofing material for light structures, sheets of common cardboard, tarred or otherwise prepared, are covered with the pulp. The application is made in a paper machine, the pulp being allowed to flow over the cardboard. Among other uses, the asbestos paper has been recommended for the manufacture of cigarettes.—*L' Industrie.*

A Wonderful Advance in the Application of Electricity.—Dr. C. W. Chancellor, of Baltimore, in *Maryland Med. Journal,* refers to a wonderful apparatus invented by Dr. Roisseau du Rocher, which removes all difficulty in the diagnosis of certain pathological conditions of the stomach, rectum and bladder. It is an instrument armed with an electric light, by which the interior of the organs mentioned may be readily examined by the eye, and the inner walls of the stomach photographed, if need be. The existence of cancer or ulcer in the stomach or rectum can be diagnosed with as much certainty as if it existed on the outer surface of the body, and a stone can be seen as distinctly in the bladder as if it were in the palm of the open hand. It is stated that this instrument can be used by any physician after a little practice, and when it is once seen and the *modus operandi* explained, there can no longer exist in the mind of any intelligent person a doubt as to its value and efficacy, in diagnosing diseases of either the stomach, rectum or bladder.

PRACTICAL NOTES AND FORMULÆ.

For Cholera Morbus, Etc.—We are indebted to Dr. A. C. Davidson for the following excellent formula useful to arrest vomiting, and especially recommended in the vomiting and purging of cholera morbus:

℞ Alcohol.....
Carbolic acid.....aaʒ v,
Chloroform.....ʒ vi.

Dose—10 to 20 drops in a wine glass of water.

Cannabis Indica in Acute and Chronic Dysentery.—Mr. Rennie first tried the officinal tincture in doses of 20 minims three times daily, but he has since found that this dose sometimes produced slight toxic symptoms, and he has consequently reduced the quantity to 15 minims, and prescribes it according to the following formula:

℞ Tinct. cannabis indicæ .....*m* xv,
Bismuth, subcarb.....gr. v,
Mucilage, acac.....ʒ ss,

Misce, et adde

Tinct. zingiberis.....*m* xx,
Tinct. carda. co.....*m* xx,
Spt. chloroform.....*m* xx,
Aqua cinnamom, ad.....ʒ i

Ter die sum.

Even in these doses it is necessary sometimes to order it to be taken after meals, as it occasionally produces vertigo. It is pleasant to take, and there is no subsequent nausea. The administration requires to be kept up for several days after all symptoms have ceased.—*Therapeutic Gazette.*

To Stop Toothache.—Gesell-Fells makes the following mixture, which is an oily liquid, and introduced in the tooth cavity has proved very effective:

℞ Camphor.....gr. lxxv,
Chloral hydrati.....gr. lxxv,
Cocaini muriat.....gr. xv.

Prescription for Headache.—The following is from Dujardin-Beaumetz:

Ethoxycafeine.....gr. xii,
Sodii salicylat.....gr. xv,
Aquæ destill., ad.....ʒ i.

Dose, teaspoonful or tablespoonful.

Guibaut recommends the following in psoriasis:

℞. Sodii arsen.....gr. 1-60,
Ext. gentian.....gr. iss,

In pill form.—Two or three pills after each meal. Also frictions twice daily with—

Adipis.....℥ iii,
Acip. pyrogallic.....ʒ iiss to ʒ iv.

Also a thorough cleansing with soap every two days.—*Les Nouveaux*, No. 23.

Rheumatism.—A writer in *American Medical Journal* recommends as the best rheumatic remedy the following:

℞. Fl. ext. black cohosh.....℥ j,
Fluid ext. prickly ash bark.....℥ j,
Syrup simplex.....℥ viij.

Mix. Teaspoonful three times per day; or, if you wish, you can give larger doses, and oftener. You may add to this, iodide potash, ℥ ss. Give podophyllin, or any other good "liver medicine," and you may safely tell your patient that if he will continue that medicine for one week, he will be able to attend to business.

Ear Ache.—

℞. Muriate of morphia.....gr. v,
Sulphate of atropia.....gr. j,
Oleum olivæ.....ʒ j,
Neutral glycerin.....ʒ jss.

M. Sig. Drop from 3 to 5 drops into the ear, and repeat every hour until relieved from pain, taking care to plug the ear with cotton after applying the medicine.—*Medical Specialist.*

A Laxative and Tonic Wine.—

℞. Tincture calisaya.....
Tincture simaruba.....
Tincture gentian.....
Tincture bitter orange peel.....aa f. ʒ ijss,
Tincture ignatia bean.....ʒ ss,
Sherry wine enough to make.....O ij.

Mix and filter. The wine is tonic, carminative and laxative. The dose is from 1 to 2 fluid ounces.—*Prog. Medical.*

Cocaine Cotton—Is prepared, according to *Rundschau* (Prag), by saturating 100 parts cotton, deprived of fat, with 100 parts of a 3-per cent. aqueous solution of cocaine. Used for toothache.

Cocaine-Morphine cotton is prepared by saturating 100 parts cotton, deprived of fat, with 100 parts 3-per cent. solution of cocaine (aqueous) in which 2-per cent. morphine has been dissolved. Used for tooth and earache.

Cocaine-Boric acid cotton. This is made by saturating 100 parts of a solution prepared as follows:

℞ Cocaine ..... 2 parts,
Acidi carbolici..... 1 part,
Acidi borici..... 2 parts,
Glycerini ..... 4 parts,
Aquæ ..... 100 parts.

Ft. solut.
Used as a pain-killer and for burns.—*Druggist.*

Acute Dysentery.—Dr. Stowers in *Medical World* says my treatment for the above mentioned disease is simply this. I first order:

℞ Sodæ bitartratis.....
Sodæ et potassæ tart.....aa ʒ ss

M. S.—Dissolve in a half a glass of water, and give every two hours until the character of the action is changed.

I also order flannel cloths to be wrung out of as warm water as the patient can bear, and applied to the abdomen every fifteen minutes.

As soon as the character of the actions has changed, I order:

℞ Bismuth subnit.....
Pulv. ipecacuanhæ comp.....aa gr. x.

M. S.—Take one every three or four hours, as may be required to control the actions of the bowels; and keep the patient quiet.

I find milk to be the best food, but order a light diet at all times. I have read a great deal on this subject and believe this to be as good as, if not superior to, any treatment of this affection.

Chills.—Pof. Walker combines capsicum with quinine in intermittent fever. He recommends the following prescription:

℞ Quininæ sulph.....ʒ j,
Oleoresinæ capsici.....gr. iij.

M. et in pil. no. xxx div.
Sig.—Three after meals.

He continues these large doses until he has prevented chills for two days. He then puts patient on two-thirds the dose until eight days after the last paroxysm. For the next seven days two pills bedtime.—*Medical World.*

Cocaine in the Treatment of Dysentery.—Dr. J. E. Winters (*New York Medical Journal*, April 24, 1886) has used from 10 to 20 drops of an eight-per-cent. solution of cocaine in a drachm of water as a rectal injection repeated every two, four, six, or eight hours, according to symptoms, and with the most satisfactory results.—*Epitome.*

EDITORIALS AND MISCELLANEOUS.

TO OUR SUBSCRIBERS.

Many of our subscribers are in arrears for the RECORD. Just at this writing we have not time to send statements of account. Let every one who knows he has not paid make us a remittance for at least one year, and in acknowledging receipt of same we will send statement of any balance existing. Money is the oil which lubricates the machinery and keeps our business going. Don't wait for a formal dun, but send something, as we need a little just now, and as soon as possible bills will be sent to all.

EDITORIAL BREVITIES.

DR. DANIEL E. BRONTON, so long connected with the *Medical and Surgical Reporter*, Philadelphia, has retired from that journal.

DR. JOSEPH JONES, of New Orleans, was elected President of the Louisiana Medical Society for the ensuing year. A good selection, truly.

A SCHOOL OF MEDICINE for Women in Russia was recently closed after being in existence a period of fourteen years.

SEE advertisement of the Dental and Medical Departments of the Southern Medical College.

WELLS & RICHARDSON—We invite special attention to the advertisement of the above house appearing for the first time in the present issue of our journal.

E. A. YARNALL—SURGICAL INSTRUMENTS.—A new advertisement from this excellent house relating to surgical instruments appears in this issue, which our readers should examine.

WE invite attention to Liebig's Liquid Food, as in advertisement on page eleven of advertising department. It is a valuable preparation of concentrated beef containing both nutritive and tonic properties. Note, also, their Cherry Malt Phosphates.

REID & CARNRICH.—We invite attention to the new advertisement of this old and reliable house, in our present issue. Now that the season for the Summer complaints of children is upon us the profession will find in the advertisement referred to something timely and appropriate.

THE OBSTETRIC SECTION AT THE INTERNATIONAL CONGRESS.—Parties desiring to contribute to the section on Obstetrics are requested to send their papers to Prof. DeLaskie Miller, of Chicago, Ill., the President of the Section, or to Prof. T. S. Powell, of Atlanta, Ga., Vice President of the same

THERE are said to be two thousand more doctors in the State of Illinois than are needed.

WARM ETHER.—It is now recommended to warm ether before using as an anæsthetic. It acts more promptly and efficiently. Don't forget, however, that it is very inflammable.

DR. ROBERT KOCH.—That indefatigable house of Detroit—Parke, Davis & Co.—kindly sends us a largc and beautifully executed portrait of the celebrated Dr. Robert Koch, the renowned discoverer of the Bacielus Tuberculosis. We highly appreciate the picture, and warmly thank Messrs. Parke, Davis & Co. for the same.

A UNIQUE MESSAGE.—The following message was written, a few days ago, on the slate of a well known phys'cian of this city :

" *Take Warning!* To all to whom it may concern : Anybody's oxes or cows found in this here patch, his or her's tails will be cut off as the case may be ! "

The Doctor thinks it was written by an ungrateful cow boy, lately returned from Texas, upon whom, a short while ago, he performed the operation of circumcision. E. v. G.

INEBRIETY —Dr. T. D. Crothers, the able editor of the *Quarterly Journal of Inebriety* and chairman of the American Commission kindly sends a circular from which we extract the following:

"The Council of the English Society for the Study and Cure of Inebriety have completed arrangements for an International Medical Congress, to be held at Westminister Hall, London, July 5th and 6th, 1887.

The object of this Congress is to present and discuss the problems of Inebriety Medically, and from a purely *scientific standpoint*, by the best authorities, thus laying the foundation for a broader and more exact study of this subject.

Papers and addresses are promised from a large number of the most distinguished Physicians.

NULLIFICATION BY AN ECLECTIC.—In Alabama there is a law requiring practitioners to report statistics of deaths to a health officer. As the law was procured through the agency of the Regular profession, the Eclectics do not cheerfully comply, and, at a late meeting of the Eclectic Association, they resolved not to obey the Allopathic law for collecting statistics. We note that, in Lee County, the ball has opened, Dr. Lamar, Eclectic, of that county, having refused to report, received a communication from Dr. Atkinson, the county health officer, in which he says : " I am ordered by the County Board of Censors to compel you to report." To this Lamar replies tartly and defiantly. What will be the result we know not, but we suppose a legal process in which the constitutionality of the law will be tested.

A DENTAL SCHOOL IN ATLANTA.

The recent addition of a Dental Department to the Southern Medical College is an important fact, and will give enlarged advantages and increased attractions to Atlanta as an educational center. It may be seen by reference

to an advertisement in this issue of our journal that the facilities offered to dental students will be of a high order, while the charges are very moderate. Southern students, especially, should come to Atlanta as in all respects equal if not superior in its inducements to any other point for obtaining a dental education, and students from the North will find here a great advantage in the mildness of its climate where they may pursue their studies with greater comfort to themselves. Those who may have weak lungs or throat affections may come with much promise of relief to these troubles.

The same inducements hold with reference to students of medicine, who would do well to examine the claims presented in the Medical and Dental Departments of the Southern Medical College before deciding to go elsewhere.

The Chairs in the Dental Department have been ably filled by the election of the following gentlemen:

L. D. Carpenter, D.D.S., Prof. of Pathology and Therapeutics.
Wm. Crenshaw, D.D.S., Prof. of Operative and Clinical Dentistry.
J. S. Thompson, D.D.S., Prof. of Mechanical and Prosthetic Dentistry.
R. Y. Henley, D.D.S., Prof. of Oral Surgery and Dental Materia Medica.
S. G. Holland, D.D.S., Prof. of Chemistry and Metallurgy.
R. C. Word, M.D., Prof. of Physiology.
W. P. Nicolson, M.D , Prof. of Anatomy.

EAST TENNESSEE, VIRGINIA AND GEORGIA RAILWAY CO.

To Delegates to the American Medical Association:

L. J. Ellis, A. G. P. A , Atlanta, Georgia, May 14th, 1887, writes: For the accommodation of delegates to the Medical Convention which convenes at Chicago, June 7th, we shall put on a special sleeper to run through to Chicago from Atlanta.

This sleeper will leave Atlanta, at 1 p. m., June 7th, arrive Chicago 6.50 p.m., June 8th.

I am authorized to say that a number of delegates from this city and the State will take up space in this sleeper, and we shall be glad to have you join the party. Also notice the following:

J. H. Griffin, of Atlanta, the Traveling Passenger Agent of Evansville Line, writes: This is to inform you that reduced rates to the above Convention will be made on the certificate plan, that is, that you must purchase your ticket to Chicago, paying therefor the regular one-way rate, and get a certificate from the agent selling you the same, stating the point from which sold, the route of the ticket, and the amount paid for it. When you arrive in Chicago, the Secretary of the Convention will indorse on your certificate that you have been in attendance on the Convention, and that will be authority for this Company to sell you a return ticket at *one-third* the regular rate.

STONE MOUNTAIN MEDICAL ASSOCIATION.

The Stone Mountain Medical Association met at Decatur on the 7th inst., President Word in the Chair.

There was an unusually large attendance. A paper prepared for a previous meeting by Dr. J. H. Green, entitled "A Case of Diphtheria with Rare Complications," came up for consideration. The case was peculiar in that it was attended by a petechial eruption which toward the close of the case covered extensiye portions of the surface with dark or ecchymosed patches.

Dr. Hart stated that he had witnessed several cases in which an eruption appeared, and had thought possibly there was a blending of scarlet fever in such cases.

Dr. Mason took position that scarlet fever and diphtheria were identical diseases.

Dr. Goldsmith asked if he had always found a membranous deposit in scarlet fever?

Dr. Mason said not always; yet, had often seen it in the anginose variety.

Dr. Goldsmith regarded scarlet fever and diphtheria as distinct diseases. In Dr. Green's case he thought the petechial eruption indicated that the kidneys were involved.

Dr. Hart said the worst cases of diphtheria had no eruption.

Dr. Word said that the petechial eruption was indicative of alteration of the blood, consequent upon a surcharge of the peculiar poison which gives rise to the malady. He had noticed the same condition in other eruptive diseases. It was well marked in one case of measles which proved fatal. He had seen it in the latter stages of typhoid fever, and in typhus or ship fevers it was a common symptom. He referred to the general tendency to sore throats during the prevalence of diphtheria and scarlet fever by reason of what had been called the "epidemic constitution of the atmosphere."

Dr. Green confirmed this statement, having noticed in one case that an entire family had sore throats wherein a member of the family had scarlet fever. He thought scarlet fever more contagious than diphtheria.

Dr. Goldsmith said he had found scarlet fever more contagious than diphtheria. Diphtheria usually recovered if calomel was given at the outset. He thought little good resulted from local treatment.

Dr. Word said that he treated the disease by both local and constitutional remedies. Of late he had acted in reference to the germ theory. He used calomel at the outset, and gave chlorate of potash internally and turpentine inhalations, and thought well of a mixture of pulverized borax and sulphur frequently blown into the throat through a quill. Tincture of iron and stimulants were used as the more acute stage subsided.

Dr. Hart said that he relied largely upon the internal use of a saturated solution of chlorate of potash, in tablespoonful doses, frequently given. He regards it not a local disease.

Dr. Mason had found good results from the use of a mixture of pulv. chlorate of potash and glycerin. He had seen a mixture of equal parts of oil of eucalyptus and turpentine dissolve rapidly the false membrane, causing it to be easily removed or coughed up.

Dr Jones mentioned a case of abscess in the chest, treated by himself and Dr. Hamilton, in which immense quantities of pus had been discharged. Bichloride solution and carbolic water had been frequently injected and the cavity washed out with good effect. The case is one of much interest and will be reported in full to the Georgia Medical Association.

Dr. Word mentioned a case of epileptiform convulsions of long standing, and almost daily recurrence, that had been arrested for last six weeks by the use of 20 grains of bromide potash and 2 drops tinc. nux vomica three times a day. This treatment was preceded with several small doses of saccharated calomel, which acted freely, producing bilious discharges, and this bilious purg-

ing had been once repeated since the case was taken. The case he thought due to reflex irritation from disorder in the alimentary canal.

Dr. Green thought that nearly all cases in young children resulted from worms or other trouble in alimentary canal.

Dr. Goldsmith asked if epileptic paroxysms were attended by a congestive or anæmic state of the brain? He thought there was a determination of blood to the brain, and had recently bled a case with prompt relief. If an anæmic condition existed, bleeding could not relieve and bromide of potash is contra-indicated.

Dr. Mason thought the case mentioned by Dr. Goldsmith was congestive, and not properly to be considered as epileptic.

Dr. Brantly said we should draw the distinction between confirmed and occasional epilepsy and simple convulsions. As a rule, confirmed epileptics were in an anæmic condition.

He asked if the fact had been observed that the red sweet potato, eaten raw, would produce convulsions. In his section so many cases had occurred among the negroes at potato-digging time that there was little doubt that the potatoes caused the trouble, not from mere indigestion as might at first be supposed, but probably from some toxic principle in the skin of the potato. The variety of potato alluded to is commonly called "negro choker." He saw not not less than twenty cases, in all of which the patients had ate the raw potatoes.

He mentioned that he had seen fine results in epilepsy from the use of the sulphate of zinc.

Dr. Brantly closed by asking the opinion of brethren in regard to a case of blindness in a female who had been pregnant and dropsical; had miscarried about five months ago, giving birth to a dead fœtus which had been dead probably ten days at birth and was also dropsical. Patient, though pale and anæmic, has recovered from the dropsical symptoms, but has been blind since miscarriage.

Dr. Word said this was probably the amourosis of albumenuria of which there had been something of late years in the journals. It occurs in the pregnant and in those conditions which lead to puerperal convulsions. The general health should be built up and especial attention given to the kidneys.

The Association adjourned to meet at Decatur the first Thursday in July, at 10 o'clock, a.m., when Dr. Green and Dr. Goldsmith will read papers.

THE INTERNATIONAL MEDICAL CONGRESS.

This body is appointed to meet in Washington City on September —, 1887. It is earnestly hoped that the Congress will be all that in its incipiency was hoped for it. No consideration should prevent the great and true representatives of the profession in the United States from a full and cordial co-operation in the Congress and from a zealous support to the great objects in view. There is one point which overrides every other, and which should exert a paramount influence upon the minds and hearts of the profession, and that is the National pride which every medical man should feel, and it seems to us must feel, in the success of this great Medical Congress of Nations, for the first time appointed to meet on American soil—at the centre and Capital of the Nation where the tree of Liberty was planted, and in which the American Eagle, the emblem of strength and power, with hovering and protecting wings, perches perpetually. The Spirit of Patriotism and true Hospitality is surely not wanting in the hearts

of American physicians who, in times past, have ever maintained a high position before the world for the love of Country not less than for the principles of their noble profession. It would seem that it should inspire the highest National spirit and the warmest professional love and hospitality to think of the coming of the great lights of the profession from other countries to shake hands with us upon our own soil, at our own National Capital, that we may extend to them that warm social greeting and true professional brotherhood for which medical men are noted the world over.

We are glad to say that we have received many assurances from abroad, and from representative men in the profession at home, that the Congress will be a great success, and that the National reputation and the patriotic pride of the American profession will be well maintained.

DUALITY OF THE BRAIN—MIND READING EXPLAINED.

The paper read by our Managing Editor at the Georgia Medical Association, entitled "Duality of the Brain; a Theory of Mind-reading, Slate-writing, etc." has led to considerable inquiry, with requests for its publication by two or three parties—one being an editor of a scientific journal. The paper is held for the Transactions of the Medical Association.

The following abstract of the paper, published in the *Atlanta Constitution*, gives a brief outline of its leading points:

Dr. R. C. Word, editor of the SOUTHERN MEDICAL RECORD, read a paper entitled The Duality of the Brain, with a Theory for Mind-reading and Slate-writing.

"It appeared that the Doctor's idea was that a man has two brains, which, under certain peculiar circumstances, may and do act separately and, sometimes, without a consciousness of the fact as between the two brains. Ordinarily the two brains, in their normal mental operation, act as one, but may act separately as in cases, not uncommon, wherein the crazy man knows that he is insane. In this case the one side of the brain is sound and the other side is unsound. Cases were mentioned wherein a person was subject to peculiar fits or mental states, and when in this peculiar condition the man seemed to be a different individual from his ordinary self, having no recollection of things which occurred in his normal or ordinary state, and remembering the incidents that occurred during his abnormal state only when the fit or spell was on him.

"Mind-reading, according to Dr. Word's theory, is a phase of mesmerism. The mesmerized man is in what he styles an electro-negative or passive condition. There are, probably, 20 per cent. of mankind who are constitutionally electro-negative. Such are very easily mesmerized, and perhaps there are 20 per cent. of people who are partially electro-negative, and who, by practice and perseverance, may be brought under the mesmeric influence. Females are more susceptible than males.

"The more frequently a person is mesmerized the more sensitive and susceptible he becomes, so that he may even throw himself into that state, and voluntarily become electro negative to any one with whom he is *en rapport;* the word 'rapport' meaning contact or in position where a nerve or magnetic current may flow between the parties. It is possible for a number of persons to be *en rapport* at the same time.

"The mind-reader is an electro-negative subject, who, by practice, has become exceedingly sensitive to impressions so that he is liable to be influenced by any one with whom he comes in contact, especially if the person whose mind he seeks to read will concentrate his thoughts upon any particular object by which he becomes more positive, and the more easily influences or dominates the other who is mesmerized, or at least passive or recipient in his nervous relation to the person who is positive.

"Dr. Word said there were many grades or classes of the mesmeric state. Some were in a hypnotic or unconscious condition; some were partially so, and others were fully awake and yet impressible and subject to the mesmeric influence. He expressed the strange and novel position that one side of the brain might be electro-negative to the other side. so that a kind of intercourse might exist between them; the one side conversing with the other side, so to speak This, he said, really occurred with the slate-writer. Thoughts, incidents and latent memories from one side of the brain are written automatically and seem to the other, or conscious side, to come from an outside or third party.

"Where a circle, consisting of a number of persons, is formed the electro-negative subject, called by the Spiritualists a 'Medium,' may get thoughts or impressions from anyone in the circle, and if only one side of the brain is electro-negative his own thoughts are liable to mingle with the thoughts of the others, and be automatically written. If both sides of his brain are electro-negative he falls into a hypnotic or trance condition, which is the same as the deeper phases of the mesmeric condition.

"Upon the subject of whether the spirits can or do communicate through an electro-negative party, the Doctor was rather non-committal. He said that he would not deny its possibility; he thought the disembodied spirit could not communicate with the material world unless by entering and using the brain of a living organism. As the organist manipulates the keys of his instrument to dispense melodious sounds, so the soul of man uses the brain and nervous system to communicate with his fellows; and as the soul is immaterial and may pass into and through solids, so the disembodied spirit may enter and enthrone itself in the brain of a living subject, and thus be able to see and communicate with the physical world. Having thus entered and gotten control of the brain, it could, perhaps, impress the party in the same way that a mesmerizer impresses the subject mesmerized, causing him to think, feel, see, and believe anything he desired—even, in some cases, to hear clairaudiantly, to see clairvoyantly, and to see or imagine the presence of materialized forms.

"The paper was listened to with great interest."

THE MICROBE OF YELLOW FEVER.

The following article and note accompanying it were received by us too late for insertion in the appropriate department of this issue of the RECORD:

ON THE MICROBE OF YELLOW FEVER AND ITS ATTENUATION. BY DR. DOMINGOS FREIRE, DR. PAUL GIBIER, AND DR. C. REBOURGEON.

In a previous communication, presented to the Academy of Sciences in November, 1887, we announced the discovery by one of us of a microbe found in the blood, both in the ejecta and the organs, of individuals who had died of yellow fever. We described its form and mode of evolution in broths wherein it had been cultivated, and, finally, the attenuation of its virulence in these same broths, and its inoculation as a prophylactic means. Since that time we have continued those researches which better perfected means of investigation have enabled us to bring about.

When one examines through the microscope the blood of an individual who has been driven to the last stage of yellow fever, one perceives a pretty good number of very fine, brilliant and movable micrococci circulating between blood corpuscles. These same micrococci are also found, and in still greater quantity, in the stomachal mucous, in the substance of negro vomitu, in the urine, and in the yellowish and viscid matter of the intestines.

If, by means of a sterilized pipette, we draw from the heart of an individual who has just died of yellow fever a small quantity of blood and drop it in the culture fluid, we observe the following: On the first day the broth becomes ill-colored, the blood corpuscles settle at the bottom of the bowl. On the follow-

ing days the broth becomes more and more opaque, first whitish, then yellowish at the surface, depositing at the fundus and on the sides to which it adheres a substance at first of a caseous appearance, but soon assuming a shade varying from light-brown to deep-black; moreover, at this point, there arises from the bowl an odor *sui generis*, bringing forcibly to mind that of black vomit.

The microscopical examination of this broth elicits a considerable proliferation of micrococci identical with those that are found in morbid liquids. They can be seen clinging to each other so as to form long, tiny chains, flexuous, movable and distorted in every direction.

If, by means of a platinum wire, one plants, as it were, this broth in a solid medium susceptible of cultivation, the development of the micrococcus is effected in a colony assuming the form of a nail whose point is sunk in the gelatinous mass and whose head spreads on the surface. This culture-fluid presents a singular appearance. The product is white, brilliant, glossy; it liquefies the gelatin slowly. Various shades of aniline, particularly the chlorydrate of rosaniline and the violet of methyl, easily color the micrococcus.

The chemical examination of the blackish material constituting the deposit found at the bottom of each bowl indicates that they contain ptomaines similar to those of black vomit.

We will give in a special communication a study on the ptomaines of yellow fever and their toxicology.

The transmissibility of yellow fever to animals is possible through the injection of morbid material and through culture fluids, particularly to rabbits, cobayes and birds. A long series of experiments enable us to state that fact.

Other experiments following the same steps have had identical results. Dr. Range, physician (*premiere classe*) in the Marine, in a long report on an epidemic of yellow fever in the Islands of Guiana, claims to have transmitted the virus to animals by inoculation. He adds, that means of investigation failed him to define the form of the microbe which he had discovered in the blood of the infected. Quite recently, Dr. Finlay, in a communication published in the *Scientific Review*, has given the description of a micrococcus which he found in the blood of individuals sick with yellow fever. He also cultivated it in solid media, and the description which he gives thereof corresponds to the characters of our preparations. Dr. Maurel, principal physician of the Marine, has also seen micrococi in the blood of persons afflicted with yellow fever.

Observation has demonstrated to us that the virulence of culture-broths did not last beyond eight or ten days. From that moment, if one continue to inject a certain quantity of this broth in rabbits or cobayes, these animals cease to succumb; on the contrary, they secure immunity. It has, therefore, been an easy task to prepare broths of different degrees of attenuation, in order to convert them into harmless vaccinating matter. We will add that the first broth is always more virulent than blood itself, but its virulence slackens from the seventh or eighth day. On this point our experiments are very numerous. We have already described them in our first communication to the Academy of Science in 1884. Before concluding, we must remind our readers that, as a sequence of the operation of Dr. Domingos Freire on the attenuation of the *amaril virus*, inoculations with attenuated cultures have been made in Rio de Janeiro on *several thousand* individuals.

We will present in a very short time, to the Academy, statistics backed by official documents and showing results obtained through these vaccinations.

MESSRS. EDITORS: The foregoing paper has been kindly translated from the French by Dr. E. van Goidtsnoven at my request, being presented by the authors to the Academy of Science in the Institute of France, at Paris, and sent to me by Dr. Domingos Freire on April 12, 1887.

As this embodies a summary of the most advanced developments connected with the preventive inoculation against yellow fever, it seems opportune that the medical public should be in possession of these points when our Government has authorized an investigation of the claims of yellow fever inoculation in Mexico and Brazil.

Believing that all which has been claimed for this prophylactic measure will be verified, I await the scrutiny with confidence in the result.

J. McF. GASTON, M D.

RECEIPTED.

For 1886—Drs. W. W. Mahan, to June; J. S. Mitchell, to April; J. M. Bowling, to May; B. A. Syms, to March; F. S. Fortson, to July; W. M. Peacock, to March; B. F. Darnell, to July; A. T. Park, A. S. Miller, A. C. Davidson, John Johnston, K. R. Smoot, E. L. Harney, M. M. Bayly, T. R. Miller, Jas. Reese.

For 1886—Drs. C. A. Jordan, P. W. Butler, to July; W. B. Allgood, E. W. Lane, W. H. Peek, A. O. Brooks, to March.

Bromidia, Papine and Iodia.—These three excellent preparations are put out by the firm of Battle & Co., Chemists, St. Louis, Mo. These valuable articles have come into very general use by the profession, the ingredients being published, the formula are approved, and, hence, may be used with propriety by members of the regular profession who have them. They are very useful and convenient.

Tablets of Soluble Iodide of Mercury.—Useful as a disinfectant in surgery. *Antiseptic Cologne*—especially useful in the home ond sick room, and *Antiseptic Liquid*, a powerful antiseptic and antizmotic, adapted to a great variety of uses. Circulars descriptive of these and other antiseptic preparations of value to physicians mailed on application to Parke, Davis & Co., Detroit, Mich.

Sharp & Dohme, of Baltimore, prepare most beautiful and reliable preparations. Their hypodermic tablets, their gelatine and sugar-coated pills and granules, their solid and fluid extracts, syrups, lozenges, trituates, and indeed all their numerous preparations, are excellent and reliable. See their adver tisement on second cover page.

Lacto-Peptine.—Now that the summer complaints are upon us, physicians should take notice of this excellent remedy prepared by the New York Pharmacal Association. It may be given alone or combined with other objects, or given with food in various forms of indigestion whether in adult or in cases of children. See advertisement in this journal.

R. L. Palmer & Co., Druggists, No. 18 Kimball House, Atlanta, Ga., keep on hand a full line of Choice Drugs and Chemicals, especially adapted for Physicians' use. Careful attention given to Prescriptions, which are put up with great care and precision, using Squibb's and Wyeth's preparations, and other choice articles of great variety and excellence.

☞ Prescriptions put up night or day, and promptly filled.

The Viburnum Compound of Dr. Haydin is regarded by the profession an excellent preparation, especially recommended in dysmenorrhœa and like nervous, painful conditions. See advertisement on page 25 of the advertising department of this journal.

Warner's Caffein and Bromide of Potassium should be known to the practitioner as one which will rarely disappoint him in cases of severe headache, especially of the nervous variety. It is certainly a great satisfaction to have at hand a pleasant and palatable remedy for headache. Try it.

come up from the ranks of the profession. It is adapted to all phases of indigestion, and is especially recommended in summer complaints of children, teething, diarrhœa, dysentery, cholera infantum, etc. It is prepared by the New York Pharmacal Association. This excellent establishment keeps an advertisement in this journal.

Colden's Liquid Beef Tonic is undoubtedly a superior preparation. It is highly nutrient, and is a tonic of superior merit. It is excellent as a substitute for beef tea and may be used with good effect in low states of the system where ordinary foods are distasteful and where the digestive powers are weak. An advertisement of this excellent preparation may be seen in another part of this journal. Be sure and examine it.—ED.

Mellin's Food is a dry powder made from wheat and malted barley. By a careful, scientific process the indigestible portions of the grain are extracted, and the entire starch property is converted into dextrine and grape-sugar by the action of the malt diastase. Thus the greater part of the work of digestion is performed before the Food reaches the stomach. Prepared by Doliber, Goodale & Co. See advertisement.